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Pepperdine University Libraries
Sustainable Preservation Environment Project

White Paper

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Background

The Special Collections and University Archives at Pepperdine University hold multiple unique collections of rare books and historic documents that have been collected by the university over many years. These materials provide rich sources for humanities research to students, our community, and scholars in a variety of fields. As the "humanities lab" on campus, the Special Collections department offers students the opportunity to engage with primary sources in a hands-on, meaningful way.

With the formalization of the department in 2008, library staff members have increased their efforts to strategically build collections, provide adequate preservation, and encourage and facilitate access to the materials by all users. While these efforts have resulted in increased usage of the materials and advancement of research, long-term preservation remains a concern.

In 2010, Pepperdine University Libraries was the recipient of the NEH Preservation Assistance Grant for Smaller Institutions. With this grant, we hired a consultant, Julie Page of the California Preservation Program, who provided guidance on emergency preparedness and improvements to the environment where our unique collections of rare materials are held. While Pepperdine immediately took action on the initial measures the report specified, Page also recommended stabilizing the temperature and humidity of our stored materials and assessing the lighting of the collection, measures that would require larger-scale changes to our facility. Shortly thereafter, Pepperdine began the process for a renovation of Payson Library, which provided us with the opportunity to address these issues.

A major aspect of the upcoming renovation is an expansion of the Special Collections and University Archives wing, which is currently filled to capacity. The expansion will create additional exhibition areas that present our collections in a new, more publicly accessible manner. As a result, we are considering how to best optimize sustainability in the preservation and display of our rare materials. The NEH Sustaining Cultural Heritage Collections Planning Grant is a key component in this process.

Project Overview

The primary goal for this grant project was to develop an integrated preservation plan for Pepperdine University's Special Collections and University Archives, achieved through an interdisciplinary team-based planning process that could serve as a model for other libraries. We assembled a team of the following three nationally recognized consultants to advise on rare materials preservation: James Reilly from the Image Permanence Institute, James Druzik from the Getty Conservation Institute, and Michael Henry from Watson & Henry Associates. Each consultant provided us with reports containing recommendations on temperature and humidity, lighting and energy usage, and sustainable architectural design. In addition, $10,000 from the grant funds were set aside to complete essential preservation activities, as recommended by our team of consultants.

The project has been successfully completed, and as outlined more fully below, the resulting products are being used to inform schematic design.

Project Activities

Preparation and Data Collection
Upon receipt of the notification of the award, we scheduled a three-day onsite visit for our team of consultants to take place in March 2014. Leading up to the visit, we engaged in several preparatory activities in order to fully maximize the time during the visit. During a teleconferencing session with the consultant team, we discussed goals, identified documentation and data needed by the consultants, and selected campus units that the team would meet with while onsite. We identified which architectural building plans the consultants would require so that these could be requested ahead of time. We also discussed the importance of gathering environmental data.

In order to develop an effective preservation plan for the Special Collections environment, temperature and humidity data sets from current storage and usage spaces were needed. During the initial phase of the project, we purchased a subscription to the eClimate Notebook, a web-based tool for environmental data management and analysis, and set up our departmental account.

We also purchased ten new PEM2 dataloggers from the Image Permanence Institute and installed one in each of the storage rooms containing historic humanities materials from the Special Collections. Temperature and humidity data are continuously collected on these monitors, and are periodically retrieved via flash drive. Data sets are then uploaded to eClimate Notebook, where they are analyzed through various graphs and reports. The three consultants were given access to our account so that they could view the data sets remotely both prior to their visit as well as following their visit, and use them to inform their preservation recommendations.

Site Visit
From March 4-6, 2014, the team convened on Pepperdine's campus for a productive three-day onsite visit. While on campus, the consultants met with a wide variety of institutional stakeholders, including Vice President Administrators, the Director of the Center for Sustainability, the Campus Architect, members of the Department of Design and Construction, and members of Facilities Management and Planning. The team also met with the architectural firm working on the library renovation.

The primary goal of these meetings was to gather information regarding the university's current structures, services, systems, and procedures, as well as information about plans for an upcoming renovation. These meetings also served to underscore the importance of preservation of historic humanities materials and to inform stakeholders regarding best practices and standards for achieving that preservation. The meetings were successful in generating support amongst these individuals and departments, and the consultants gathered extensive information.

In addition to meetings with stakeholders, the consultants conducted a thorough investigation of the library's building structure, including a tour of the air-handling units on the roof of the building and views above the ceilings in relevant areas. They explored all of the spaces that are currently utilized for storage of historic humanities materials. The consultants examined architectural drawings for the current building as well as conceptual plans for the upcoming renovation.

Consultants also met extensively with the Dean of Libraries (Project Director Mark Roosa) and Head of Special Collections and University Archives (Co-Project Director Melissa Nykanen) to better understand the types and formats of materials that are included in the collection, including their preservation vulnerabilities, as well as how the collections are used. One of the consultants, James Reilly, trained the Head of Special Collections on usage of the eClimate Notebook. The team conferred on potential uses of the $10,000 set aside for essential preservation activities.

Follow-Up Activities

A portion of the grant funds ($10,000) was set aside for essential preservation activities that were recommended by the consultants prior to release of their full reports.
In support of the goal of creating a sustainable preservation program, the consultants recommended using the funds for a shelving and collection-housing plan and for a floor load study of a proposed storage location. The consultants suggested that it was essential to carry out these activities immediately, so that the results could inform schematic design for the renovation.

For the shelving and collection-housing plan, the consultants recommended hiring an archivist to study the impact of decompression of existing files, boxes, and shelving. When the existing storage spaces are renovated and consolidated, the expectation is that the required amount of shelving and boxes will increase because of several factors: processing always bulks out collections because of new enclosures and folders, existing shelves are overcrowded and in some cases too close to ceilings, and the file cabinets of photographs are too overfull for safe access to them. The team felt that a careful planning of shelving and filing needs was necessary to inform the space and shelving plans for the renovation.

We commissioned Barclay Ogden from the University of California, Berkeley, a well-known expert in preservation of library and archival materials, to conduct this study. Following some preliminary discussion and data gathering, Ogden visited the site on August 28, 2014. He investigated all of the department's collections and storage spaces, taking measurements and noting areas where storage especially needed to expand due to improper housing and shelving. Based on library staff's information, Ogden also noted which materials were likely to expand due to upcoming processing. The resulting report lists the varying types of shelving that should be integrated into the renovation plan, as well as the required amounts of each (see appendix 4). This information will be given to the architect during the schematic design phase so that they can account for the correct amount of storage space to properly store collections.

One aspect of the library's sustainable plan for special collections and archives is to extend storage into an area that is currently a mixed-use space. To assure that this space is suitable for collections storage, the consultants recommended seeking the services of a qualified engineer to carry out an inspection. The consultants recommended Melvyn Green, a licensed engineer and historic buildings expert, located in nearby Torrance, California, to carry out this assessment.

Green completed a site visit on September 24, 2014. He inspected the proposed space, and investigated the architectural plans. Green found that the floor in the space is not currently adequate to uphold the types and amounts of shelving that would be required for special collections storage. He proposed several options for altering the floor for this purpose (see appendix 5).

Publicity and Wrap-Up

The three original consultants, Reilly, Henry, and Druzik, continued to gather data and assess documentation during the final phase of the project. They each prepared a report summarizing their findings and recommendations for their respective areas. These reports can be found in appendices 1 through 3, and are summarized below.

In June 2014, we presented this project at the Rare Book and Manuscript Section (RBMS) Conference. The title of our talk was, "Retrofitting the Special Collections Space: Using Values, Trends, and Needs to Inform Physical Design." A description of this talk follows below:

> Currently a small reading room that also serves as the director's office, a classroom, event space, display space, and even an occasional warm-up room for musicians, the Special Collections department at Pepperdine is planning a renovation and is dreaming big. But as a small department with a modest budget, how do we re-envision and prioritize our space? In order to make the most of this opportunity, we are thinking about our values and considering time-honored tradition as well as current and future trends and needs. Inspired by this year's theme, some of the questions we will address in this presentation include: What were the values and priorities that defined the way special collections space was designed and used in the 1960s? Have these values changed? How should our current priorities, technological trends, and user needs be reflected in our new spaces?

As a component of this presentation, we highlighted one of our top priorities for the renovation, which is to extend the usable life of our collection materials through better preservation and protection. In describing our approach to this priority, we discussed the grant activities and the role they have played in our renovation by helping us to prepare a sustainable preservation plan.

We also presented the results of the grant at an all-library meeting in March 2014, following the consultants' site visit. This gave us an opportunity to educate our staff on the importance of preservation of special collections materials and the current state of our

environmental conditions, as well as what we can now track with the installation of the PEM2 monitors. We shared our goals for the library renovation plan, and received enthusiastic support from this group.

The reports have been packaged together so that they can be given to the campus units and architect as they begin schematic design. These reports will inform our design decisions and ensure that the renovated spaces provide appropriate and sustainable preservation elements, while allowing us provide users with better access.

Findings

The consultants made several recommendations that can be incorporated into a renovation design. A few of these recommendations are summarized and highlighted here.

First, the consultants recommended that the special collections materials be consolidated into a single storage area with its own mechanical systems. Currently, collections are stored in multiple locations around the library with varying degrees of environmental control. A single location would allow us to more efficiently control the storage environment as well as provide better security.

Secondly, the consultants provided us with set points that we should target with new HVAC equipment. These set points were specified in three categories: storage areas only, which can be kept cooler than other areas; areas where materials are on display (i.e., exhibit areas, reading room, processing room); and all other areas of the library. Data gathered from the PEM2 monitors showed that our temperature and humidity levels are consistently outside of recommended set points. A new HVAC system will allow us to correct these fluctuations. The set points that were provided by the consultants take into consideration sustainability and our unique situation. Current research in preservation reveals that we no longer need to be tied to a very specific set point throughout the year, and that allowing for some amount of seasonal "slow drift" as well as temporary equipment shut-off time can allow us to increase our efficiency without compromising the preservation of our materials.

Thirdly, we should seek to minimize outside air exchange. The consultants recommended that we consider replacing the roof above storage areas and provide for increased moisture vapor control in the walls, ceilings, and floors.

Finally, during the course of the renovation, high-efficiency, cost-effective illumination should be integrated. LED lights should be considered for both general lighting, as well as internal lighting in exhibit cases. Specific light levels are provided in the consultants' reports.

Further recommendations and more details are included in the reports.

Audiences

Our immediate audiences for this project were our internal stakeholders and architect. As we approach a library renovation, it was essential for library staff, the campus-wide units involved in the renovation, and the architect assigned to our project to be fully on board with the importance of preservation of historic humanities materials. The meetings with expert consultants and resulting reports were able to accomplish this; they also provided some base-level information on the components of historic preservation. The internal stakeholders and architect were enthusiastic about the meetings, and came away with a solid understanding of our preservation needs. The reports provided the details needed to move forward with schematic design.

Ultimately, this project will lead to a renovation of the special collections spaces and better preservation of our historic humanities materials for all users. The Special Collections supports research, scholarship, and lifelong learning among students, faculty, staff, alumni, members of the Malibu community, and scholars from institutions across the country and around the world. English, history, American Studies, religion, and other humanities classes visit the Special Collections and University Archives to gain hands-on experience using primary sources and to be exposed to original research in the humanities. The demand for class visits increases annually. Researchers and authors from beyond the institution have also utilized the unique materials in the Special Collections in a variety of ways. The development of the Malibu Historical Collection has positioned the Pepperdine University Libraries as the primary provider of local historical materials, many of which were endangered before arriving at Pepperdine and cannot be found in any other location. These materials have also been used by community members, media outlets, and other organizations for a wide variety of purposes. As the collections receive increased usage, preservation becomes even more essential in order to ensure ongoing access to the collections.

Final Results

We successfully completed our primary goal for this project, which was to receive reports from expert consultants with specific recommendations that we could use to inform implementation of preservation actions. Ultimately, our goal is to undertake initiatives that will resolve our preservation challenges of environment (HVAC and lighting), space planning, and structural needs. This project also gave us the opportunity to take a close look at sustainability and environmentally progressive methods as we build out our collection.

All of our areas of need were thoroughly addressed in these reports. The consultants cited up-to-the-minute current standards and best practices. They thoughtfully considered our external environment, the space available, and our programming needs in order to develop a customized plan of action for our upcoming renovation. The resulting analysis is specific to our needs and capabilities, which makes it feasible to carry out.

The five reports that we received are as follows:

Temperature and RH Issues and Sustainable Mechanical Systems Operation, by James M. Reilly, Image Permanence Institute

Environmental Improvements Report, by Michael C. Henry, Watson & Henry Associates

Lighting Considerations, by James Druzik, The Getty Conservation Institute

Shelving Needs, by Barclay Ogden, University of California, Berkeley

Payson Library Floor Load Study, by Melvyn Green, Melvyn Green and Associates, Inc.

Another intended outcome of the project was to use the $10,000 for essential preservation activities. The consultants unanimously agreed on the activities that this money should fund, and we were successfully able to arrange those activities during the grant period. Because of these activities, we have additional information to provide to the design team in regards to space planning. We also have options to consider as we explore opportunities to find a consolidated space for storage of our rare materials.

Finally, we were able to share the lessons from the findings of the investigation at an on-campus session as well as at a professional conference. We hope that the process we have undertaken and the lessons we have learned will serve as a model for other libraries.

Evaluation

This program allowed us to accomplish something we would not have been able to do on our own. Namely, we were able to work with five expert consultants from across the country to develop a sustainable preservation plan for our humanities collections that will have a direct impact on an upcoming renovation and on the usable life of our materials. We are thrilled with this result, and expect that the impact will be felt for years to come.

Every phase of the project went very smoothly. We were able to schedule and complete a productive onsite visit with the three main consultants. All consultants went above and beyond to deliver significant expertise and recommendations both during and following their visit. The consultants were available to us throughout the grant project, and delivered their reports to us in a timely manner. The reports themselves provided the information that we needed.

The additional funds for essential preservation activities allowed us to undertake several activities that were recommended by the consultants. The fact that we were able to implement these recommendations immediately through use of grant funds was especially useful to us. Because we have now moved into schematic design, we could not have waited to conduct these activities. The activities resulted in more expert reports that are helping us to further refine our renovation plan.

The provision of PEM2 temperature and humidity monitors and the first year of subscription to eClimate Notebook jump-started a now ongoing program of better tracking of our environmental data. The monitors have been successfully deployed for more than a year now, and this project allowed us the opportunity to learn how to use the software and to establish a program for continual monitoring.

Perhaps a challenge that we experienced during this project was one of timing. We had hoped submit a proposal for an implementation grant in order to carry out the consultant's recommendations. However, we are just moving into schematic design now and therefore were not able to submit an implantation proposal by the deadline. We hope to be at the appropriate stage to submit a proposal for next year's round.

Continuation of the Project and Long-Term Impact

Although this phase of the project has been fully completed, we are now moving into the schematic design phase of the renovation project. The reports generated from this project will be essential as we move forward, and the recommended preservation solutions will provide a map for schematic design. All reports are accessible to the campus-wide units working on the renovation as well as to the architectural and engineering design team. We fully expect that many of the consultant's recommendations that were received as part of this program will be implemented in the next phase.

This project also increased understanding of the collection's preservation needs by library staff, campus units, and the renovation architect, thus providing additional evidence for the necessity for a renovation and increased buy-in from stakeholders. It offered us an opportunity to strengthen our collaborative partnerships with the units working on the renovation design, something that will be of great value as we move into schematic design and implementation. Since they were fully involved in the consultants' site visit, there is great understanding amongst our team.

We will continue to use the PEM2 monitors to track the environmental data in our storage and usage areas to better understand our conditions and to track any changes. In fact, in recent months, our HVAC unit experienced some difficulties and needed repairs. During this time, we were able to use the PEM2 monitors to carefully track any impact that this had on the preservation environment so that we could make adjustments to our approach.

The project has also increased publicity around the library's renovation and especially regarding the preservation components. In part because of the grant activities and the increased awareness around the special collections renovation, we were asked to contribute an article about special collections and the new design plans to the provost's newsletter. We have also started hosting a series of preservation workshops for local community members. We feel better equipped to offer these workshops, knowing that we are addressing our own preservation concerns. This project has demonstrated our commitment to preservation, something useful in discussions with potential donors of funding and collection materials.

Upon completion of this project, we are poised to provide an appropriate preservation environment for our historic, rare materials, and prepared to do so in an efficient and sustainable way. This grant offered us the tools and expertise that we needed to prepare a preservation plan and map for the future. Once the library renovation is complete, the long-term impact of this project will be fully realized, as we will increase the usable life of our materials for all users.